

Appln No. 10/573,230
Amdt date August 7, 2008
Reply to Office action of April 7, 2008

Amendments to the Drawings:

The attached sheets of drawings includes changes to pages 30-35. These sheets, which include Figs. 1-7, replace the original sheets including Figs. 1-7. No new matter is added to the Drawings.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Status of the Claims

Claims 1-4 were previously deleted. Claim 5 is currently amended. Claims 13-22 have been added.

No new matter is added by the present amendments, and the Examiner is respectfully requested to enter them.

Objection to the Specification

The Examiner has objected to the amendment to the specification filed on March 24, 2006 under 35 U.S.C. § 132(a) because it introduces new matter into the disclosure. In order to expedite allowance of the current application, Applicants hereby withdraw the aforementioned amendment to the specification without prejudice and without estoppel, and Applicants respectfully request that the objection be withdrawn.

Objection to the Drawings

The Examiner has objected to the FIG. designations for being enclosed in brackets. Applicants have amended the drawings by removing the brackets enclosing the FIG. designations. Corrected replacement sheets are submitted in this response and they serve to replace FIGs. 1-6, as filed on March 24, 2006. Thus, the Applicants respectfully request that the objection to the Drawings be withdrawn.

Rejection under 35 USC § 112, First Paragraph - Written Description

The Examiner has rejected claims 5-12 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner has asserted that there is no support in the specification and claims, as originally filed, for the range of 500 to 700 degrees Celsius. To the extent that the present rejection applies to the amended claims, Applicants respectfully traverse.

To satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. See, e.g., *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68, 119 S.Ct. 304, 312, 48 USPQ2d 1641, 1647 91998; *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997); *Amgen, Inc. v. Chugai Pharmaceutical*, 927 F.2d 1200, 1206, 18 USPQ2d 1016, 1021 (Fed. Cir. 1991). Furthermore, a patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).

Here, in all the examples listed in the specification, the crystalline clay minerals were disclosed to be fired at 500 degrees Celsius. (See Examples 1 and 2 on page 20, Examples 3-5 on page 21, Example 6 on page 22, Example 7 on page 24, and Example 8 on page 25.) Further, in the second paragraph on page 17 of the specification, the paragraph discloses that a suitable firing temperature is 100 to 800 degrees Celsius, more preferably 550 to 700 degrees Celsius. From these passages in the specification, a person skilled in the art would know that the temperature range between 500 and 550 degrees Celsius is also considered a more preferable range, and would recognize that Applicants' disclosure is a description of the invention defined by claims 5-12.

Thus, Applicants submit that the claims are supported by the written description and respectfully request that the rejection under 35 USC § 112, first paragraph be withdrawn.

Rejection under 35 USC § 103(a) - Obviousness

The Examiner has rejected claims 5-12 under 35 USC § 103(a) as allegedly being unpatentable over Jones et al. (US Pat. 6,136,740). In support of the rejection, the Examiner stated, "Jones et al. discloses an aluminosilicate which calcined at a temperature of 500-750 degrees Celsius which can be used for various uses, including for storage and controlled release of pheromones." Applicants respectfully traverse for the following reasons.

According to MPEP 2143.03, all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The composition disclosed in Jones et al. has different properties than that achieved by the claimed invention

As understood from claim 1 of Jones et al., the disclosed process comprises (1) flash calcining a particulate aluminosilicate material, and (2) treating the particulate aluminosilicate with a leaching agent that chemically reacts with or solubilizes aluminum and thereby leaches aluminum from the aluminosilicate material. Further, in the paragraph from line 58 in column 1 to line 9 in column 2 of the cited reference, a flash-calcined particulate material is explained as one that has been calcined extremely rapidly, e.g., by calcining for a period of less than 0.5 seconds, often less than 0.1 second. The paragraph also teaches: "[i]n the flash calcinations of hydrous aluminosilicates, water is driven off by the rapid heating. Preferably, the rate of heating the hydrated aluminosilicate particulate material is such that the rate of expansion of the water vapor formed is greater than the rate of diffusion of the water vapor through the crystal structure of the particles. This causes an internal build-up of pressure of the water vapor inside the particles and a multiplicity of sealed voids are produced in the core of the particles by a rapid blistering effect."

Moreover, concerning the "blistering effect", the following paragraph in the cited reference states that the blistering effect does not occur in conventional calcining processes,

generally known as 'soak calcining', because the material is heated over a substantial period of time, e.g., many seconds or minutes and the rate of heating is not sufficiently rapid.

In summary, Jones et al. employ flash calcining to produce a multiplicity of sealed voids in the core of the particles by a rapid blistering effect. As to the present invention, it does not rely on flash calcining. Please note the second paragraph on page 16 of the specification, which states that the firing is preferably carried out under conditions so that the crystalline structure of the crystalline mineral is maintained.

In order to distinguish clearly the present invention from the teaching of the cited document, Applicants have amended claim 5. Specifically, "for a time period from 5 to 120 minutes" is added to current claim 5. The blistering effect, which Jones et al. require as an essential element of their invention, will never be achieved by a firing for such a long time in the present invention. Thus, the material disclosed by Jones et al. exhibits different properties than that achieved by the present invention, and the time period of firing in the present invention is functionally different from Jones et al.

Jones et al. combine different processes

In the process described by Jones et al., the crystalline structure of the crystalline mineral is further deformed by a leaching step: aluminum atoms are leached from the crystal. The step for preparing a substrate to contain a pheromone according to the present invention, however, does not require leaching. Instead, amended claim 5 recites that the material is "prepared by steps *consisting essentially of* firing a crystalline mineral . . ." (Emphasis added.) This language distinguishes the claim from Jones et al., as it excludes process steps that materially affect the basic and novel properties of the invention--such as the leaching step disclosed in Jones et al. (See, e.g., *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998))

The cited reference discusses subjecting the aluminosilicate materials produced by calcining in the conventional way, i.e., by 'soak calcining' to a leaching step, and states that the product obtained by leaching the aluminosilicate particulate material that has been prepared by the flash calcining can have a microstructure which is different from that obtained by acid

leaching aluminosilicates prepared by 'soak calcining' . See lines 46-50 in column 2. However, this reference is completely silent about utilizing a soak calcined crystalline mineral that is not subjected to leaching steps, as a substrate for containing a pheromone or the like.

Jones et al. yield different results and would not yield the claimed invention

In the present invention, the crystalline structure of the crystalline mineral is essentially maintained after the crystalline mineral is subjected to firing. When the substrate is then impregnated with a pheromone, the pheromone is absorbed and permeates into spaces between the crystal planes or in the crystal lattice. Therefore, the area of the pheromone that contacts ambient atmosphere is small, which minimizes the effect of environmental factors on the pheromone. A pheromone contained in a substrate of the invention is stably released at a relatively constant rate, and the release is not seriously affected by environmental factors, such as ambient temperature and wind.

Conversely, the substrate obtained according to the invention of Jones et al. has a high degree of porosity and a high particulate surface area. See column 2, lines 51-56, and column 5, lines 43-45. These properties lead to a state such that the area of a pheromone in contact with ambient atmosphere is large, and the release thereof is seriously affected by the environmental conditions. Unlike the present invention, a pheromone contained in the substrate of the cited references is quickly released in the first stage, and the rate of release decreases with the passage of time, although 'controlled release' maybe obtained to some extent. In addition, the release is seriously affected by ambient temperature, wind and other environmental conditions.

Thus, the invention described in amended claim 5 is patentable over the disclosure of Jones et al. Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be withdrawn.

Amendments made without Prejudice or Estoppel

Notwithstanding the amendments made and accompanying remarks provided above, Applicants do not acquiesce in the original ground for rejection with respect to the original form of these claims. These amendments have been made without prejudice, waiver, or estoppel, and

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without forfeiture or dedication to the public, with respect to the original subject matter of the claims as originally filed or in their form immediately preceding these amendments. Applicants reserve the right to pursue the original scope of these claims in the future, such as through divisional or continuation practice.


CONCLUSION

In view of the foregoing, Applicants believe that the case is in a condition for allowance. The Office is invited to contact the undersigned at 626-795-9900 with any questions relating to the referenced patent application.

This response is accompanied by a request for Extension of Time under 37 C.F.R. 1.136(a) of ONE (1) month extending the time for response to Thursday, August 7, 2008. This response is filed on August 7, 2008 and is therefore timely filed. The Commissioner is authorized to charge any fees that may be required in connection with this submission and to credit any overpayments to Deposit Account No. 03-1728.

Respectfully submitted,
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By



John Carpenter
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GTW/gtw

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